Orono School Department	**)**	**Departmental**
Penobscot County	**)**	**Findings of Fact and Order**
Orono, Maine	**)**	**Air Emission License**
A-109-71-G-M	**)**	**Amendment #1**

After review of the air emissions license amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. The Orono School Department of Orono, Maine was issued Air Emission License A-109-71-F-R on March 13, 2002, permitting the operation of emission sources associated with the Orono High School (high school) and the Orono Middle School (middle school).

2. The Orono School Department has requested an amendment of the air emission license for the high school and the middle school to include previously unlicensed equipment located at the Asa C. Adams Elementary School (elementary school).

B. Emission Equipment

Orono School Department is applying to include the operation of the following equipment to its air emissions license:

Fuel Burning Equipment

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type, % sulfur	Stack #
Boiler #5	3.1	29	#2 fuel oil, 0.5%	3
Boiler #6	3.2	28	#2 fuel oil, 0.5%	3

C. Application Classification

A modification at a facility with a licensed emissions increase of under (4) four TPY for any one regulated pollutant and under (8) eight TPY for total pollutants is determined to be a minor revision and not a major or minor modification. This amendment is determined to be a minor revision and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Bureau of Air Quality regulations. BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Minor Revision Description

The current air emission license for the Orono School Department includes four boilers, Boilers #1 and #2 at Orono High School and Boilers #3 and #4 at Orono Middle School, used primarily for facility hot water and heating needs. The four boilers have a total maximum design heat input capacity of 10.1 MMBtu/hr, firing #2 oil with a maximum sulfur content not to exceed 0.5% by weight. During an inspection conducted by the regional compliance inspector, it was found that the Asa C. Adams Elementary School, a third school under the jurisdiction of the Orono School Department, utilizes two #2 fuel oil-fired boilers to satisfy the heating needs of the elementary school. Because the Asa C. Adams Elementary School is located on property that is contiguous with the property that contains the middle and high schools, the two elementary school boilers are required to be included in the Orono School Department Air Emission License. The current license establishes a total annual fuel usage limit of 100,000 gallons per year of #2 fuel oil with a sulfur content not to exceed 0.5% by weight on a twelve-month rolling total. The licensed total annual fuel usage limit will not change as a result of including the two boilers on the current license, therefore the total allowable annual emissions will not change.

C. Boilers #4 and #5

The Asa C. Adams Elementary School utilizes two #2 fuel oil-fired package boilers with maximum heat input capacities of 3.1 MMBtu/hr and 3.2 MMBtu/hr respectively. The boilers shall be designated Boiler #5 and Boiler #6 respectively. Boilers #5 and #6 exhaust to a common stack that shall be designated Stack #3. The boilers are utilized primarily to satisfy the hot water and heating needs of the elementary school.

The current license allows for the middle and high schools to fire #2 fuel oil with a sulfur content of no greater than 0.5% sulfur by weight. Because the two elementary school boilers are considered new equipment, an application of Best Available Control Technology (BACT) is required. Ordinarily, BACT for new or modified #2 fuel oil-fired equipment is the requirement of the use of #2 fuel oil with a sulfur content of no greater than 0.35% sulfur by weight.

In this case, the Department shall consider BACT satisfied with the currently licensed requirement of the use of #2 fuel oil with a sulfur content of no greater than 0.5% sulfur by weight, applied to the elementary school for the following reasons:

1. The Orono School Department maintains a contract for oil delivery to the schools under its jurisdiction. If this minor revision were to establish a sulfur limit of no greater than 0.35% sulfur by weight for the elementary school, the Orono School Department would be required to either establish a separate contract for fuel delivery for the Asa C. Adams Elementary School or establish a new contract for fuel oil with a lower sulfur fuel for all the boilers. This would cause undo time and monetary expense to the facility.

2. The current license already establishes annual SO_2 emissions from the licensed schools based on the current total annual fuel oil usage limit of 100,000 gallons per year. The Orono School Department is not requesting that the currently licensed total annual fuel usage limit be changed as a result of this minor revision. Therefore there would be no net decrease in allowable SO_2 emissions that would result in requiring the Orono School Department to fire 0.35% sulfur fuel in the two elementary school boilers.

A summary of the BACT analysis for Boiler #5 (3.1 MMBtu/hr) and Boiler #6 (3.2 MMBtu/hr) is as follows:

1. BACT for emissions of PM/PM_{10} is 0.08 lb/MMBtu.
2. BACT for emissions of SO_2 is a fuel oil sulfur content not to exceed 0.5% sulfur by weight
3. NO_x emission limits are based on data from similar #2 fired boilers of this size and age.
4. CO and VOC emission limits are based upon AP-42 data dated 9/98.
5. Visible emissions from the boilers are subject to chapter 101 of the Air Regulations:
   Visible emissions from any stack shall not exceed 20% opacity on a six- (6) minute block average except, for no more than 2 six minute block averages in a 3 hour period.

D. Annual Emission Restrictions

Orono School Department shall be restricted to the following annual emissions, based on a 12-month rolling total:

- The total fuel use for the facility shall not exceed 100,000 gal/yr. of #2 fuel oil with a maximum sulfur content not to exceed 0.5% by weight.

Total Allowable Annual Emission for the Facility
(used to calculate the annual license fee)

Pollutant	Tons/Year
PM	0.8
PM_{10}	0.8
SO_2	4.0
NO_x	3.5
CO	0.3
VOC	0.02

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Based on the above total facility emissions, Orono School Department is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License amendment A-109-71-G-M subject to the conditions found in air emission license A-109-71-F-R and in the following conditions:

The following shall replace Condition (16) of Air Emission License A-109-71-F-R:

(16) Boilers #1, #2, #3, #4, #5 and #6

A. Total annual combined fuel usage for all the boilers shall not exceed 100,000 gals/yr. #2 fuel oil with a maximum sulfur content of 0.5% by weight based on a 12-month rolling total. Fuel use records, consisting of fuel delivery receipts demonstrating percent sulfur content, shall be maintained on a monthly basis, in addition to the 12-month rolling total.

B. Emissions shall not exceed the following:

Equipment		**PM**	**PM_{10}**	**SO_2**	**NO_x**	**CO**	**VOC**
Boiler #1	lb/hr	0.3	0.3	1.5	1.3	0.1	0.01
Boiler #2	lb/hr	0.3	0.3	1.5	1.4	0.1	0.01
Boiler #3	lb/hr	0.3	0.3	1.2	1.1	0.1	0.01
Boiler #4	lb/hr	0.3	0.3	1.5	1.3	0.1	0.01
Boiler #5	lb/MMBtu	0.08	-	-	-	-	-
	lb/hr	0.3	0.3	1.7	1.6	0.1	0.01
Boiler #6	lb/MMBtu	0.08	-	-	-	-	-
	lb/hr	0.3	0.3	1.8	1.6	0.1	0.01

C. Visible emissions.

1. Visible emissions from Stack 1 shall not exceed 20% opacity on a six-minute block average except, for no more than 2 six-minute block averages in a 3-hour period.

2. Visible emissions from Stack 2 shall not exceed 20% opacity on a six-minute block average except, for no more than 2 six-minute block averages in a 3-hour period.

3. Visible emissions from Stack 3 shall not exceed 20% opacity on a six-minute block average except, for no more than 2 six-minute block averages in a 3-hour period.

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A-109-71-G-M	**6**	**Amendment #1**

(19) This amendment shall expire concurrently with Air Emission License A-109-71-F-R.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: **April 10, 2003**
Date of application acceptance: **April 16, 2003**

Date filed with the Board of Environmental Protection: _____

This Order prepared by, Peter G. Carleton, Bureau of Air Quality